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Invention:
HEADGEAR

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HEADGEAR

BACKGROUND OF THE INVENTION

5 FIELD OF THE INVENTION

The present invention relates to headgear and, more particularly, to headgear comprised of a bill portion and a headband portion, wherein the bill portion is of an aesthetically pleasing construction.

10 DESCRIPTION OF THE PRIOR ART

Baseball caps, visors, and headgear that have bills are extremely popular. For example, baseball caps bearing school names, emblems, logos and mascots are worn not only by athletic teams representing their respective schools but by students, alumni and fans supporting the teams at those schools. In the field of advertisement and business, baseball caps and the like bearing the name or logo of a company are worn not only by workers of a particular company but are freely and willingly given out to customers as a form of advertisement. Yet still, baseball caps, sun visors and other similar headgear with bills serve a functional purpose of protecting the head, and part of the face from excessive exposure to the sun.

20 Because of their enormous popularity, their functional characteristics, e.g., advertising, reducing sun exposure, etc., headgear of the type described above, particularly baseball caps, are designed as aesthetically pleasing as possible so as to be more eye catching

and in the case of advertising, to convey the best possible image of the entity whose logo, name or other identifying indicia is on the hat.

SUMMARY OF THE INVENTION

In a preferred aspect, the present invention is directed to a piece of headgear having a headband portion and a bill portion connected to the headband portion. The bill portion has a top side, a bottom side and an edge or brim and is of a composite construction. The
5 composite construction of the bill portion includes a shape imparting core section, the core section having a top surface and a bottom surface. There is a layer of a flexible plastic over the top surface of the core section, the plastic layer having a specular gloss appearance.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of one embodiment of the headgear of the present invention.

Fig. 2 is a perspective view of another embodiment of the headgear of the present invention.

Fig. 3 is a top view, partly in section, to showing the construction of one embodiment of the bill portion of the headgear of the present invention.

Fig. 4 is a side, cross-sectional view showing a bill covering according to one aspect of the present invention before being installed over the core section of the bill.

Fig. 5 shows the bill covering of Fig. 4 installed on the core section of the bill of one embodiment of the headgear of the present invention.

Fig. 6 is an enlarged, cross-sectional view taken along the lines 6-6 of Fig. 3.

Fig. 7 is a view similar to Fig. 6 showing another embodiment construction of the bill portion of the headgear of the present invention.

Fig. 8 is a view similar to Fig. 6 showing another embodiment of the bill portion of the headgear of the present invention.

Fig. 9 is a view similar to Fig. 6 showing another embodiment of the bill portion of the headgear of the present invention.

Fig. 10 is a partial, top view showing another embodiment of the headgear of the present invention.

Fig. 11 is a view taken along the lines 11-11 of Fig. 10.

Fig. 12 is a partial, perspective view of another embodiment of the headgear of the present invention.

Fig. 13 is a view taken along the lines 13-13 of Fig. 12.

Fig. 14 is a view taken along the lines 14-14 of Fig. 13.

5 Fig. 15 is a view taken along the lines 15-15 of Fig. 12.

DESCRIPTION OF PREFERRED EMBODIMENTS

The term, headgear, as used herein, is intended to include any form of hat, cap, visor or the like, which includes a bill portion and a headband portion, the headband portion, as is well known encircling the head of the wearer. Thus, the invention contemplates baseball caps, visors, tams that have a bill and any other type of headgear that possesses a bill portion.

Referring first to Fig. 1, there is shown one embodiment of the present invention in the form of a baseball hat. The headgear of Fig. 10, shown generally as 10, is, of typical baseball hat construction having a crown portion 12 connected to a bill portion 14. It will be understood that the crown includes a headband portion (not shown). The bill portion 14 has a top side 16, a bottom side (not shown in Fig. 1) and an edge or brim 18. Baseball cap 10 also has a mechanism, now shown, but readily understood by those in the art, to adjust the circumference of the headband portion to accommodate the size of the head of the wearer. In this regard, and as show in Fig. 1, there is shown a strap 20 that forms a portion of such an adjustable mechanism.

Referring now to Fig. 2, there is shown another embodiment of the headgear of the present invention in the form of a visor, shown generally as 22, the visor having a headband portion 24 that, can also include any suitable mechanism to adjust its size, e.g., elastic headband. Visor 22 further includes a bill 26 portion connected to headband portion 24 that has a top side 28, a bottom side (not shown in Fig. 2) and a brim or edge 30. As can be seen in Fig. 2, the top side 28 of bill 26 has a caricature 32 which as will be described hereafter is on a layer of material underneath a plastic layer forming the surface of top side 26. It will

be understood that such caricature could be imprinted on the layer forming the surface of top side 26.

It will be understood that the bill portion and the headband portion are connected together in the conventional fashion well known to those skilled in the art.

5 The present invention is primarily directed to the construction of the bill portion on the headgear, one embodiment of which is depicted in Fig. 3. Typically, the bill portion of a baseball cap, sun visor or the like, is comprised of three primary layers, the core section that has a top surface and a bottom surface, and layers of fabric over the top surface and the bottom surface of the core section. In the present invention, and again referring to Fig. 3, the
10 bill portion 14 differs dramatically from such conventional, prior art bill constructions. Bill portion 14 includes a core section 34, the bottom surface of which is covered with a fabric or cloth 36, i.e., fabric 36 would form the outer surface of the bottom or underside of the bill portion 14. Overlying the top surface of core section 34 is a decorative layer of material that, as described hereafter, can take many forms, but in the embodiment shown in Figs. 3 and 6,
15 is a decorative layer of material and in this instance a decorative layer of a flexible plastic material. Bonded to layer 38 and overlying the top side of the bill portion 14 is a layer 40 of a plastic having a specular gloss. As best shown in Fig. 6, layers 40 and 38, both being of plastic material, are bonded to one another, e.g., by means of an adhesive 42. It will be understood that in this embodiment and others described hereafter the relative thickness of
20 the layers is exaggerated for purposes of clarity and are not necessarily reflective of the relative thickness of each of the various layers of the bill portion.

Fig. 7 shows a slightly modified version of the bill construction depicted in Figs. 3 and 6. The construction of the bill portion shown in Fig. 7 differs from that shown in Fig. 6 in that, rather than having the bottom or the underside of the bill portion covered with cloth such as cloth 36 shown in Fig. 6, the underside of the bill portion is constructed essentially
5 the same as the top side of the bill portion in that there is a layer of flexible plastic 38a overlying the bottom surface of the core section 34, layer 38a being bonded by an adhesive 42a to a layer 40a of a flexible plastic having a specular gloss.

Fig. 8 shows still another embodiment of the present invention wherein the top surface of the core section 34 is overlaid by a layer 44 of cloth over which is a layer 46 of a
10 flexible plastic having a specular gloss. The embodiment shown in Fig. 8 resembles the embodiment shown in Fig. 6 in that the bottom surface of the core section 34 is covered with a cloth layer 48.

With reference to Fig. 9, there is shown still another embodiment of the bill construction of the present invention. The embodiment of Fig. 9 differs from that shown in
15 Fig. 8 only in the sense that the cloth layer 48 on the underside of the bill portion, shown as 48a in Fig. 9, is covered with a layer 46a of a flexible plastic having a specular gloss. In all other respects, the structure of the bill portion shown in Fig. 9 is identical to that shown in Fig. 8.

With reference to Figs. 10 and 11, there is shown a partial top view of a headgear in
20 accordance with another embodiment of the present invention. Referring, first, to Figs. 10, the headgear shown generally as 10a is similar to the baseball cap 10 shown in Fig. 1 in that it has a crown 50, which like the case of crown 12 would include an encircling headband to

fit about the wearer's head. The bill portion, shown generally as 51 includes a core section 34 and a fabric or cloth layer 52 covering the bottom surface of core section 34. The top surface of core section 34 is covered with an adhesive coating 54 in and on which there is a dispersion of particles 56, the combination of the adhesive coating 54 and particles 56 forming a substrate. Typically, the particles or particulate materials are light reflecting in nature as, for example, metal flecks or other such light reflective particulate materials. For example, such particulate materials, if they are light reflecting, could be formed from pieces of highly reflective plastic, coated pieces of cardboard, etc. In general, the substrate can be any combination of discrete pieces of material that preferably, but not necessarily, are light reflecting in and/or on any type of adhesive coating or other substance that can be layered on the top surface of core section. Overlying the substrate comprised of the particulates 56 and the adhesive 54 is a layer 58 of a transparent, flexible plastic having a specular gloss appearance.

Turning now to Figs. 12-15, there is shown still another embodiment of the present invention. The headgear 10b shown in Fig. 12 is similar to that shown in Figs. 1 and 10 in that it is a typical baseball cap having a crown. The bill portion 60 of the headgear 10b has a top surface 62, much as described above with respect to the previous embodiments, which is of a flexible plastic that overlays the top surface of core section 34 and that has a specular gloss appearance. Additionally, the underside of bill portion 60 is covered with a layer 64 of a flexible plastic having a specular glass appearance. Although not shown, there could be a layer of a decorative material positioned between layer 62 and core section 34 and layer 64 and core section 34. The brim or edge of bill portion 60 is comprised of a metallic strip 68

which is secured or at least is in abutting relationship with the periphery of core section 34, the metallic strip 68 being overlaid with a layer 70 of a transparent, flexible plastic having a specular gloss appearance.

With reference to Figs. 4 and 5, there is shown one technique for constructing the bill portion of the headgear of the present invention. With reference first to Fig. 4, an envelope or glove is constructed, the envelope being formed, for example, and with reference to the construction shown in Fig. 6, of a cloth layer 36, which can be considered a bottom layer and an upper layer comprised of the flexible plastic having the specular gloss appearance as one layer 40 and a second plastic layer 38 bonded to layer 40. It will be understood that the glove would be stitched around its periphery as indicated, for example, at 39, there being an open end 41. To form the brim portion, the glove constructed shown in Fig. 4 would be turned inside out and the core section 34 inserted into the glove. Accordingly, as shown in Fig. 5, the stitching or other means of adhering the respective layers to one another would be tucked under and abut the periphery of the core section 34, thereby forming a finished edge or brim of the bill portion.

In a similar fashion with respect to the embodiment shown in Figs. 12-15, the metallic strip could be adhesively applied to the plastic layer 70, which in turn would be stitched or otherwise adhered as at 80 and 82, to the layers at 62 and 64. At this point, the metallic strip 68 would be on the outside of the glove but, as per the method described in Figs. 4 and 5, when the glove was pulled out inside and the core section 34 inserted, the metallic strip 68 would not abut the periphery of core section 34 and the stitching as at 80

and 82 would now be folded under as shown in Fig. 15, again providing an aesthetic finished appearance to the brim or edge of the bill portion of the hat.

The core section of the bill portion of the headgear of the present invention can be formed of a variety of materials that are shape imparting in the sense that they have the necessary stiffness to retain a given shape whether it be essentially flat or arched. For example, as shown in Figs. 1, 2 and 12, the bill portion of those embodiments are shown as being essentially flat. However, as is well known, it is common to arch the bill portions such that the bill portion forms a C when viewed head on, i.e., and in the direction indicated by the arrows A-A. Typically, the core section will be formed of a plastic material such as a polyolefin, e.g., polyethylene, polypropylene, co-polymers of ethylene and propylene and other such plastic or polymeric materials that possess sufficient rigidity as well as flexibility to assume a desired shape, as described above, and substantially remain in that shape. It is also contemplated that the material of the core section, when it is a polymeric material, can have some memory such that it could be moved, for example, from an arched configuration to an essentially flat or planar configuration and visa versa. It is also contemplated that the bill portion of the present invention could be essentially rigid in the sense that it did not possess sufficient flexibility to be arched or otherwise formed into an arcuate or curved shape without being creased or broken. It will be recognized that there are any number of polymeric materials that could be employed in forming the core section, depending upon the desired degree of flexibility/rigidity, etc. It is also contemplated that the core section could be formed of a metallic material, as well as various thermosetting and thermoplastic resins, alone or with fillers such as fibrous materials impregnated in the thermoplastic or

thermosetting resins. It is further envisioned that the core section could be constructed of yet other materials, e.g., heavy gauge cardboard. The latter material is not preferred because of the fact that it tends to crease easily and loses much of its structural integrity if it becomes wet. Nonetheless, for inexpensive novelty or one-time wear items, such a cardboard
5 construction could be employed.

The flexible plastic layer that covers the top surface of the core section and optionally the bottom surface of the core section will be of a plastic material that has a specular gloss appearance. The word "specular" means mirror-like and "specular gloss" is defined as the perception by an observer of the mirror-like appearance of a surface. In actuality, this
10 appearance cannot be easily quantified and typically all that can be done by available instrumentation is to measure the amount of incident light that is reflected at a defined angle (or range of angles). As is well known, in practice only a perfect mirror will give rise to a precise angle of reflection, whereas, a paint film and plastics of the type under consideration will tend to scatter the incident light and reflect it over a range of angles. Specular gloss is
15 quantified, to the extent it can be, by measuring the amount of light reflected from the sample surface and comparing it with the amount of light reflected when a polished black glass calibration standard is measured under the same conditions. The glass standard is typically assigned a value of 100 gloss units and in practice, the highest attainable gloss value for non-metallic paint surfaces tends towards 95 gloss units. Accordingly, any surface that reflects
20 more light than the black glass standard will produce a gloss meter reading of greater than 100 gloss units. Metallic finishes of the type used as automotive paints will generally produce gloss meter readings well in excess of 100 gloss units. It will be understood from

the above that the term “specular gloss appearance” is not intended to mean that the surface will give the perception of a perfect or even near perfect mirror. However, it will be light reflective. However, it will be light reflective. Various terms such as “shiny,” “glossy,” “glassy,” etc. can be used to describe the appearance of the flexible plastic film that overlies the top side of the bill portion. In general, the flexible plastic having the specular gloss appearance will have a gloss meter reading of greater than about 70 gloss units as measured by the gloss measurement methods identified as BS EN ISO 2813 : BS 3900-D5, as set forth in a 3 page printout from THE PAINT RESEARCH ASSOCIATION, the contents of which are incorporated herein by reference. Currently the printout is available at:

10 <http://www.pra.org.uk/technical/testingopticalgloss.htm>

 The flexible plastic having the specular gloss appearance can be clear and transparent, translucent, colored, the only requirement being that to the ordinary observer, it has a specular gloss appearance. The flexible plastic material having the specular gloss appearance can be made from a wide range of polymeric materials, including such materials as polyvinylchloride, polyesters, and virtually any other polymeric material that is flexible and that possesses a specular gloss appearance. Preferred polymeric materials are those that will accept print where print is intended to include logos, pictures or any other markings. The term “flexible” as used herein is intended to mean that the material can be formed, laid or adhered to a surface and any wrinkles, creases or the like, easily removed. Generally speaking the flexible plastic having the specular gloss appearance will range in thickness from about 1 to 20 mils, more preferably 1 to 15 mils, depending upon the nature of the particular plastic or polymeric material, i.e., the thickness will be such that it is quite pliant.

As can be seen from many of the embodiments described above, the flexible plastic having the specular glass appearance can overlie the core section directly, but in the most preferred and usual cases, that layer will be over a layer of a material that can be described as decorative. The term “decorative material” or variants thereof, e.g., decorative layer of material, can include fabrics or cloths that can be of any number of colors, can be patterned, can be multicolored, embossed, etc. In this regard, it will be recognized that even a single color cloth having a non-specular gloss appearance will present a highly aesthetic appearance when it is overlaid with a clear, transparent, flexible plastic having the specular gloss appearance. The decorative layer can also be made, and in the most preferred cases, is of a flexible plastic material, generally colored and that also can have a specular gloss appearance. Indeed, the combination of a transparent outermost layer of flexible plastic having a specular gloss appearance over a colored flexible glass layer that has a specular gloss appearance is particularly eye-catching. When such plastic decorative layer is used, it will have a thickness of from 1 to 5 mils. It will also be appreciated that when a decorative layer of material is employed, as described above, logos, slogans, etc. can be imprinted thereon and, if the flexible plastic layer having the specular gloss appearance that is on the top surface of the bill is clear and transparent, will be readily seen. In cases where the flexible plastic having the specular gloss appearance forms the outer surface of the topside of the bill portion and there is a colored, flexible plastic layer as a decorative layer disposed between the top surface of the bill and the core section, it is desirable that the two plastic layers be adhered to one another by a suitable adhesive that, preferably is clear so as to not impair the viewing of the decorative layer. Indeed, many polymeric materials that can form

the flexible plastic layer having the specular gloss appearance can be adhered to the decorative layer made of a similar polymeric material, simply by the application of heat or pressure.

It will also be appreciated that the decorative layer, whether it be cloth, plastic or a
5 combination thereof, can be embossed with emblems, logos, etc. such that, when the flexible plastic layer having the specular gloss appearance covering the top side of the bill is transparent and clear, such logos, slogans, etc. will be clearly seen.

The term "cloth and fabric," are used interchangeably herein and are intended to include anything made by weaving, felting, knitting, bonding, crocheting, etc. natural and/or
10 synthetic fibers and filaments in any variation of texture, finish, weight, and including materials that were treated so as to give a special appearance or impart other properties.

It can be seen from the above description and figures that numerous combinations of materials can be employed in making the headgear of the present invention so long as the top surface of the bill portion is formed by a layer of a flexible plastic that has a specular gloss
15 appearance, regardless of whether such layer is transparent, clear, translucent or colored. As a few examples of the possible combinations that could be employed, with reference to Fig. 7, it can be seen that layer 40 could be a transparent flexible plastic layer having a specular gloss appearance, layer 38 could be a colored plastic layer with or without a specular gloss, layer 40a could be the same or different as layer 40 and layer 38a could be the same or
20 different than layer 38.

In addition to providing a most aesthetically pleasing piece of headgear, the use of the flexible plastic layer having the specular gloss appearance over the top side of the bill

portion has the added advantage that it is waterproof and can readily be cleaned.

Accordingly, if there were a decorative layer between the top surface of the core section and the plastic layer having the specular gloss appearance forming the top surface of the bill portion, and the top surface of the bill portion became soiled, thereby obscuring or impairing

5 the view of the decorative layer below, the soiling could be removed, generally with the use of soap and water or any detergent like material that did not impair the specular gloss appearance. Additionally, if both the top side and underside of the bill portion are covered with the plastic layer having a specular gloss appearance, the bill portion of the headgear becomes virtually impervious to rain.

10 The foregoing description and examples illustrate selected embodiments of the present invention. In light thereof, variations and modifications will be suggested to one skilled in the art, all of which are in the spirit and purview of this invention.